

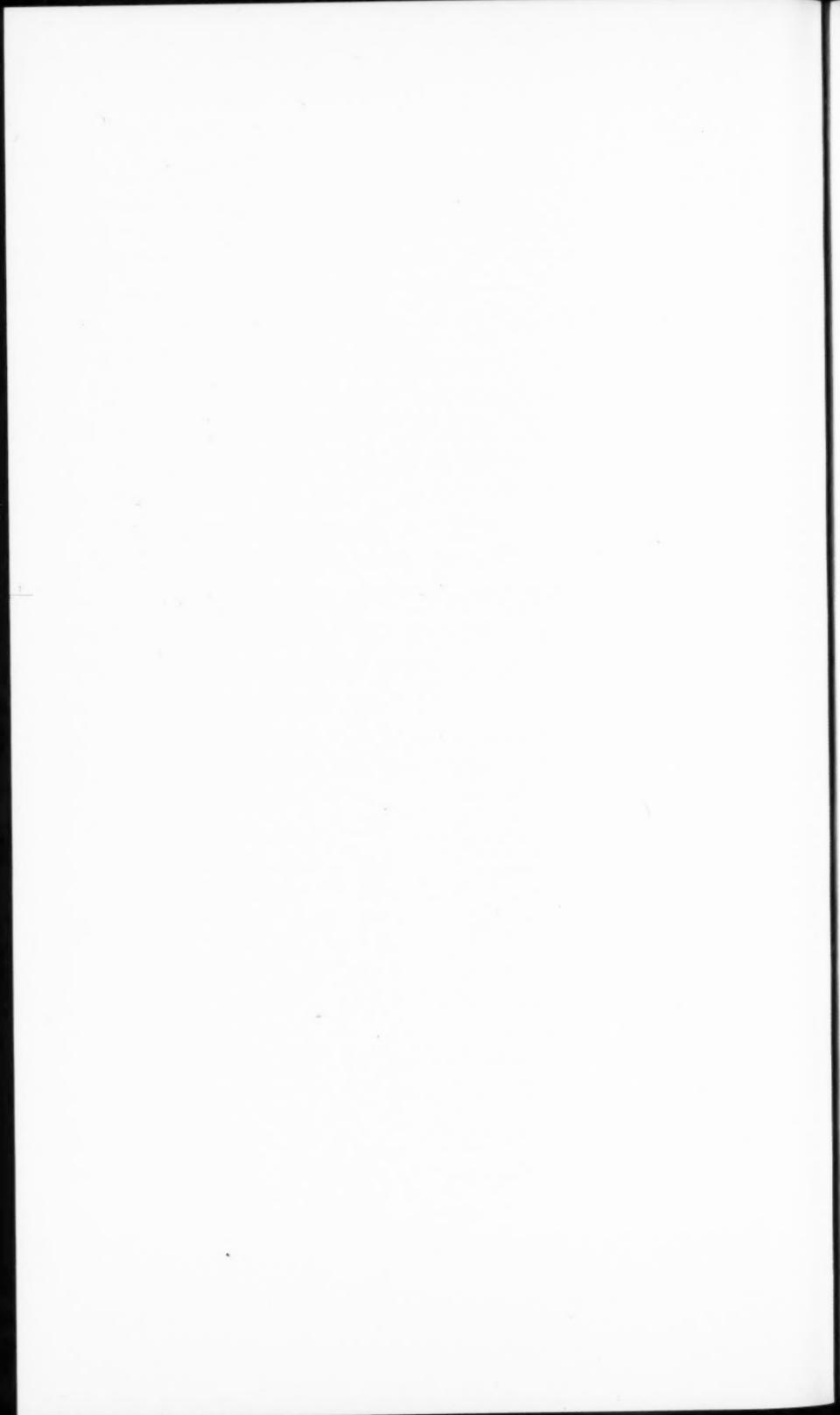
Proceedings of the American Academy of Arts and Sciences

VOL. 82, No. 6, p. 215-246, JUNE, 1953

SUMMER NUMBER

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RECORDS OF MEETINGS  
FROM OCTOBER 1952 TO MAY 1953



American Academy of Arts and Sciences  
OFFICERS AND COMMITTEES FOR 1952-1953

**President**  
EDWIN H. LAND

**Vice-Presidents**

**Class I**  
FRANCIS BIRCH

**Class II**  
JAMES M. FAULKNER

**Class III**  
ERWIN D. CANHAM

**Class IV**  
JOHN E. BURCHARD

**Secretary**  
WILLIAM C. GREENE

**Treasurer**  
HORACE S. FORD

**Librarian**  
TAYLOR STARCK

**Editor**  
TAYLOR STARCK

**Executive Officer**  
RALPH W. BURHOE

**Councillors**

**Class I**  
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Section 2 — PHILIPP FRANK<sup>7</sup>  
Section 3 — EUGENE ROCHOW<sup>5</sup>  
Section 4 — FRED L. WHIPPLE<sup>4</sup>  
Section 5 — MARTIN J. BUERGER<sup>4</sup>  
Section 6 — HAROLD L. HAZEN<sup>5</sup>

**Class III**  
Section 1 — A. WARREN STEARNS<sup>4</sup>  
Section 2 — RALPH E. FREEMAN<sup>7</sup>  
Section 3 — CARL J. FRIEDRICH<sup>5</sup>  
Section 4 — CALVERT MAGRUDER<sup>4</sup>  
Section 5 — CHESTER M. ALTER<sup>6</sup>

**Class II**  
Section 1 — JOHN T. EDSALL<sup>6</sup>  
Section 2 — KENNETH V. THIMANN<sup>5</sup>  
Section 3 — FRANK M. CARPENTER<sup>6</sup>  
Section 4 — CARROLL M. WILLIAMS<sup>7</sup>  
Section 5 — FRANCIS M. RACKEMANN<sup>5</sup>

**Class IV**  
Section 1 — WILLARD V. O. QUINE<sup>4</sup>  
Section 2 — HUGH O'N. HENCKEN<sup>6</sup>  
Section 3 — HOWARD M. JONES<sup>7</sup>  
Section 4 — JOSEPH HUDNUT<sup>5</sup>

<sup>4</sup>Term expires May, 1954.

<sup>5</sup>Term expires May, 1955.

<sup>6</sup>Term expires May, 1956.

<sup>7</sup>Term expires May, 1957.

## STANDING COMMITTEES

### The House Committee

PHILIPPE E. LECORBEILLER, *Chairman*

THOMAS K. SHERWOOD<sup>6</sup>

HENRY R. VIETS<sup>5</sup>

### The Committee on Membership

EDWIN H. LAND, *Chairman, ex officio*

#### Class I

BART J. BOK<sup>5</sup>

EDWARD M. PURCELL<sup>4</sup>

#### Class II

JAMES M. FAULKNER<sup>4</sup>

FRANCIS O. SCHMITT<sup>5</sup>

#### Class III

HENRY A. MURRAY, JR.<sup>5</sup>

WALTER M. WHITEHILL<sup>4</sup>

#### Class IV

WILLIAM G. CONSTABLE<sup>5</sup>

MASON HAMMOND<sup>4</sup>

### The Committee on Meetings

EDWIN H. LAND, *Chairman, ex officio*

WILLIAM C. GREENE, *Secretary, ex officio*

#### Class I

FRANCIS BIRCH, *ex officio*

BART J. BOK<sup>4</sup>

#### Class II

JAMES M. FAULKNER, *ex officio*

ROY G. HOSKINS<sup>4</sup>

#### Class III

ERWIN D. CANHAM, *ex officio*

SAMUEL A. STOUFFER<sup>5</sup>

#### Class IV

JOHN E. BURCHARD, *ex officio*

ESTHER FORBES<sup>5</sup>

### The Committee on Finance

HORACE S. FORD, *Chairman, ex officio*

THOMAS D. CABOT<sup>4</sup>

RALPH LOWELL<sup>4</sup>

HARVEY H. BUNDY<sup>5</sup>

ERWIN H. SCHELL<sup>5</sup>

### The Auditing Committee

BISHOP C. HUNT<sup>4</sup>

DAVID F. EDWARDS<sup>5</sup>

### The Committee on Publication

TAYLOR STARCK, *Chairman, ex officio*

#### Class I

PHILIPP FRANK<sup>4</sup>

#### Class II

FRANK M. CARPENTER<sup>4</sup>

#### Class III

THOMAS J. WILSON<sup>5</sup>

#### Class IV

WALDO G. LELAND<sup>5</sup>

### The Permanent Science Fund Committee

J. LAWRENCE ONCLEY, *Chairman*

ERIC G. BALL<sup>6</sup>

EARL R. LOEW<sup>6</sup>

HELEN M. CAM<sup>4</sup>

DONALD H. MENZEL<sup>4</sup>

CHESTER S. KEEFER<sup>5</sup>

REED C. ROLLINS<sup>5</sup>

<sup>4</sup>Term expires May, 1954.

<sup>5</sup>Term expires May, 1955.

<sup>6</sup>Term expires May, 1956.

**The Rumford Committee**

JOSEPH H. KEENAN,<sup>4</sup> *Chairman*

DANIEL F. COMSTOCK<sup>4</sup>

ARTHUR C. HARDY<sup>4</sup>

DONALD F. HORNIG<sup>6</sup>

CUTLER D. WEST<sup>6</sup>

JOSEPH H. KEENAN<sup>4</sup>

NORMAN F. RAMSEY<sup>5</sup>

GEORGE WALD<sup>5</sup>

**The C. M. Warren Committee**

EDWIN R. GILLILAND,<sup>5</sup> *Chairman*

EDWIN J. COHN<sup>4</sup>

ROBERT H. COLE<sup>5</sup>

ARTHUR C. COPE<sup>6</sup>

LOUIS F. FIESER<sup>4</sup>

EUGENE M. LANDIS<sup>4</sup>

RICHARD C. LORD<sup>6</sup>

**The Amory Prize Committee**

EDWIN B. WILSON, *Chairman*

WILLIAM B. CASTLE

ROY G. HOSKINS

GREGORY PINCUS

GEORGE W. THORN

GEORGE B. WISLOCKI

S. BURT WOLBACH

**The Nominating Committee**

HARLOW SHAPLEY, *Chairman*

**Class I**

CHARLES D. CORYELL<sup>4</sup>

HARLOW SHAPLEY<sup>5</sup>

WILLIAM P. ALLIS<sup>6</sup>

**Class II**

HUDSON HOAGLAND<sup>4</sup>

CLIFFORD FRONDEL<sup>5</sup>

L. R. CLEVELAND<sup>6</sup>

**Class III**

ZECHARIAH CHAFEE, JR.<sup>4</sup>

ROBERT B. STEWART<sup>5</sup>

SAVILLE R. DAVIS<sup>6</sup>

**Class IV**

WILBUR K. JORDAN<sup>4</sup>

W. FREEMAN TWADDELL<sup>5</sup>

GEORGE H. EDGE<sup>6</sup>

<sup>4</sup> Term expires May, 1954.

<sup>5</sup> Term expires May, 1955.

<sup>6</sup> Term expires May, 1956.

## SPECIAL COMMITTEES ACTIVE DURING 1952-1953

### Committee for the Conference on Climatic Variations

HARLOW SHAPLEY, *Chairman*

ELSO S. BARGHOORN  
COLUMBUS O'D. ISELIN

HELMUT LANDSBERG  
HURD C. WILLETT

### Committee for the Conference on Totalitarianism

CARL J. FRIEDRICH, *Chairman*

ERWIN D. CANHAM  
KARL W. DEUTSCH

MERLE FAINSOD  
ALEXANDER GERSCHENKRON

HAROLD D. LASSWELL

### Committee on International Relations

JOHN T. EDSALL, *Chairman*

BART J. BOK  
CHARLES D. CORYELL  
PAUL M. DOTY

FREDERICK M. ELIOT  
TAYLOR STARCK  
HENRY R. VIETS

### Committee on Policy on Membership and Dues

GEORGE R. HARRISON, *Chairman*

CHESTER M. ALTER  
HORACE S. FORD

HAROLD L. HAZEN  
HARLOW SHAPLEY

KENNETH V. THIMANN

### Committee on the Rumford Bicentennial

HARLOW SHAPLEY, *Chairman*

PERCY W. BRIDGMAN  
SANBORN C. BROWN

JOSEPH H. KEENAN  
EDWIN B. WILSON

### Committee on School Science

FRANCIS BITTER, *Chairman*

JOHN E. BURCHARD  
CHARLES D. CORYELL

MASON HAMMOND  
KENNETH V. THIMANN

### Committee on Unity of Science

PHILIPP FRANK, *Chairman*

PERCY W. BRIDGMAN  
HUDSON HOAGLAND  
CHARLES MORRIS

HARLOW SHAPLEY  
B. F. SKINNER  
S. S. STEVENS

## RECORDS OF MEETINGS

### October 15, 1952 — Stated Meeting

The One Thousand Three Hundred and Sixtieth Meeting of the Academy convened in its House on October 15, 1952, and was called to order by the President at 8.15 P.M.

There were present ninety Fellows and thirty-seven Guests.

The records of the Meeting of May 14 were approved as published.

The Secretary reported that the Council had approved eight grants-in-aid from the Permanent Science Fund totaling \$7,550, and four grants from the Rumford Fund totaling \$11,900.

The Secretary announced that the Council had recommended amending the Statutes to remove the requirement that non-resident Fellows pay an admission fee, and recommended that the dues of non-resident Fellows be reduced from \$7.50 to \$5.00 per year.

Recently elected Fellows were introduced as follows (The Class and Section of the new Fellow, given in parenthesis, is according to the old classification effective at the time of the election.): Donald Leslie Augustine (II:3) by G. C. Shattuck; Pietro Belluschi (IV:4) by J. R. Killian, Jr.; Leo L. Beranek (I:4) by H. L. Hazen; Bruce Hadley Billings (I:2) by D. H. Menzel; Richard Henry Bolt (I:2) by H. L. Hazen; Margaret Clapp (III:4) by H. H. Bundy; Richard Hale Goodwin (II:2) by K. V. Thimann; Lawrence Joseph Heidt (I:3) by J. A. Beattie; James Gordon Horsfall (II:2) by P. C. Mangelsdorf; Henry Garrett Houghton (II:1) by T. K. Sherwood; John Withers Irvine, Jr. (I:3) by I. Amdur; George Wallace Kidder (II:3) by A. S. Romer; Gilbert William King (I:3) by W. H. Stockmayer; Francis Daniels Moore (II:4) by G. W. Thorn; Wayne Buckles Nottingham (I:2) by J. C. Slater; Christopher Hallowell Phillips (III:2) by A. G. Rotch; Burrhus Frederic Skinner (IV:1) by J. G. Beebe-Center; Harry Caesar Solomon (II:4) by R. G. Hoskins; Herbert Henry Uhlig (I:4) by J. Chipman; Hao Wang (IV:1) by W. V. Quine; Hubert Bradford Vickery (II:3) by G. Scatchard; Cornelis Jacobus Gorter (FHM I:2) by J. H. Van Vleck:

The following communication was presented:

Cornelis J. Gorter: *Temperatures Below One Degree Kelvin.*

The meeting was dissolved at 10.30 P.M.

**November 12, 1952 — Stated Meeting**

The One Thousand Three Hundred and Sixty-First Meeting of the Academy convened in its House on November 12, 1952, and was called to order by the President at 8.20 P.M.

There were present eighty Fellows and thirty-three Guests.

The records of the Meeting of October 15 were approved.

The Secretary reported that the Council this afternoon had recommended amending the Statutes as follows:

Amend Chap. II, Art. 6, par. 1 (1) (see page 149 of the *Proceedings*, Vol. 81, No. 3, January, 1952) to read (in toto): "Every Fellow resident within fifty miles of Boston hereafter elected shall pay an admission fee of ten dollars: if he shall neglect to pay this Fee within six months of the date of his election, his election shall become void. Fellows resident more than fifty miles of Boston shall pay no admission fee."

Amend Chap. II, Art. 6, par. 3, (2) to read (in toto): "Every Fellow residing more than fifty miles from Boston elected after 1938 shall pay, unless he enjoys statutory exemption, such Annual Dues, not exceeding five dollars, as shall be voted annually in March by the Academy. These shall become due on the first of June."

Recently elected Fellows were introduced as follows (The Class and Section of the new Fellow, given in parenthesis, is according to the old classification effective at the time of the election.): Walter Scott Baird (III:4) by O. Oldenberg; John Peterson Elder (IV:3) by W. C. Greene; James Gilluly (II:1) by K. F. Mather; John Anthony Hrones (I:4) by S. C. Collins; Gyorgy Kepes (IV:4) by J. E. Burchard; Morris M. Leighton (II:1) by K. F. Mather; Wolf Leslau (IV:3) by R. H. Pfeiffer; Earl Randall Loew (II:3) by B. R. Lutz; Raymond Cecil Moore (II:1) by K. F. Mather; Thomas Brennan Nolan (II:1) by L. C. Graton; John Alvin Pierce (I:4) by H. R. Mimno; Raphael Salem (II:3) by W. T. Martin; Ascher Herman Shapiro (I:4) by J. H. Keenan; Arnold Max Seligman (I:3) by G. B. Wislocki; Clifford Kenyon Shipton (IV:2) by W. M. Whitehill; Earl Place Stevenson (III:4) by H. S. Ford; Hurd Curtis Willett (II:1) by H. Shapley.

The following communication was presented:

George Wald: *The Molecular Basis of Vision.*

The meeting was dissolved at 10.50 P.M.

**December 10, 1952 — Stated Meeting**

The One Thousand Three Hundred and Sixty-Second Meeting of the Academy convened in its House on December 10, 1952, and was called to order by the President at 8.20 P.M.

There were present eighty-two Fellows and forty-one Guests.

The records of the Meeting of November 12 were read and approved.

The Secretary reported that the Council this afternoon had recommended raising the limit on the number of Fellows from one thousand to thirteen hundred fifty, and, to accomplish this, to amend the Statutes in Chap. II, Art. 2, par. 1, to read: "The number of Fellows shall not exceed thirteen hundred fifty. . . ."

Recently elected Fellows were introduced as follows (The Class and Section of the new Fellow, given in parenthesis, is according to the old classification effective at the time of the election.): John Otis Brew (III:4) by E. A. Hooton; Halvor Niels Christensen (I:3) by E. G. Ball; I. Bernard Cohen (IV:2) by G. Sarton; Hallam Leonard Movius, Jr. (IV:2) by E. A. Hooton; Gerhard Schmidt (I:3) by D. Rapport; George Davis Snell (II:3) by E. B. Wilson; Frederick John Stare (II:4) by E. G. Ball; Cutler Delong West (I:3) by E. H. Land; Gordon Randolph Willey (IV:2) by E. A. Hooton.

The following communication was presented:

D. M. S. Watson: *Man's Beginnings?*

The meeting was dissolved at 10.05 P.M.

**January 14, 1953 — Stated Meeting**

The One Thousand Three Hundred and Sixty-Third Meeting of the Academy convened in its House on January 14, 1953, and was called to order by the President at 8.15 P.M.

There were present forty-two Fellows and twenty-five Guests.

The records of the Meeting of December 10 were read and approved.

It was voted to amend the Statutes as follows:

Amend Chap. II, Art. 6, par. 1 to read in toto: "Every Fellow resident within fifty miles of Boston hereafter elected shall pay an admission fee of ten dollars: if he shall neglect to pay this fee within six months of the date of his election, his election shall become void. Fellows resident more than fifty miles of Boston shall pay no admission fee."

Amend Chap. II, Art. 6, par. 3, to read in toto: "Every Fellow residing more than fifty miles from Boston elected after 1938 shall pay, unless he enjoys statutory exemption, such Annual Dues, not exceeding five dollars, as shall be voted annually in March by the Academy. These shall become due on the first of June."

Amend Chap. II, Art. 2, par. 1 to read in part: "The number of Fellows shall not exceed thirteen hundred fifty. . . ."

The following communication was presented:

Arthur E. Sutherland: *The Supreme Court and the General Will: Some Reflections on the Judicial Role in Tomorrow's Democracy.*

The meeting was dissolved at 9.25 P.M.

#### February 11, 1953 — Stated Meeting

The One Thousand Three Hundred and Sixty-Fourth Meeting of the Academy convened in its House on February 11, 1953, and was called to order by the President at 8.20 P.M.

There were present eighty-one Fellows and eighty Guests.

The records of the Meeting of January 14 were read and approved.

Two Fellows were introduced as follows: Charles R. Morey (IV:4) by W. C. Greene and Harrison Keller (III:5) by W. Piston.

The following communication was presented:

Wilder Penfield: *A Consideration of the Neurophysiological Mechanism of Speech and Some Educational Consequences.*

The meeting was dissolved at 9.45 P.M.

#### March 6, 1953 — Special Meeting

The One Thousand Three Hundred and Sixty-Fifth Meeting of the Academy convened in its House on March 6, 1953, and was called to order by the President at 8.20 P.M. This Meeting of the Academy was the second of the seven sessions of the Academy's Conference on Totalitarianism.

There were present 270 persons, of whom it is estimated about 110 were Fellows and 160 were Guests.

The following communication was presented:

George F. Kennan: *Totalitarianism and Freedom.*

The meeting was dissolved at 10.15 P.M.

**March 26, 1953 — Special Meeting**

The One Thousand Three Hundred and Sixty-Sixth Meeting of the Academy convened at the Harvard Club of Boston on March 26, 1953, at 7 P.M. to dine in celebration of the bicentennial of the birth of Benjamin Thompson, Count Rumford. President Land was in the Chair.

This meeting had been designated as Ladies' Night, and there were present ninety-seven Fellows and seventy-six Guests.

The following guests of honor were introduced: Eight former Rumford medalists of the American Academy (Joel Stebbins 1913, Percy Williams Bridgman 1917, Henry Norris Russell 1925, Harlow Shapley 1933, George Russell Harrison 1939, Edwin Herbert Land 1945, Edmund Newton Harvey 1947, and Herbert E. Ives 1951); four former Rumford medalists of the Royal Society (Peter Debye 1930, Karl Manne Georg Siegbahn 1940, Alfred Egerton 1946, and Franz Eugen Simon 1948); two of the three who were to receive the Rumford medals in 1953 (Willis E. Lamb, Jr., and Lars Onsager); the Rumford Professor of Harvard University (Emory Leon Chaffee); and the Representative of the Rumford Historical Society (Richard C. Johnson).

Greetings from the Royal Society and from the Royal Institution of London on the occasion of the celebration of the 200th anniversary of Rumford's birth were presented by Sir Alfred Egerton.

The following communication was presented:

Sanborn Conner Brown: *Count Rumford — Physicist and Technologist.*

The meeting was dissolved at 10.30 P.M.

**March 27, 1953 — Special Meeting**

The One Thousand Three Hundred and Sixty-Seventh Meeting of the Academy convened in its House on Friday, March 27, 1953, and was called to order by the President at 8.25 P.M. This Meeting of the Academy was the fourth of five sessions devoted to the celebration of the bicentennial of the birth of Benjamin Thompson, Count Rumford, by the Academy, March 26-28.

There were present forty-seven Fellows and forty-three Guests. Mr. George R. Harrison, Chairman of the Rumford Committee,

presented the following three speakers to introduce the three Rumford medalists of 1953, as follows: Peter Debye, Cornell University, introduced Enrico Fermi, University of Chicago; Norman F. Ramsey, Harvard University, introduced Willis E. Lamb, Jr., Stanford University; and John G. Kirkwood, Yale University, introduced Lars Onsager, Yale University.

Rumford gold and silver medals were then presented as follows: to Enrico Fermi for his studies of radiation theory and nuclear energy, to Willis E. Lamb, Jr., for his studies of the atomic hydrogen spectrum, to Lars Onsager for his contribution to the thermodynamics of transport processes.

The meeting was dissolved at 9:45 P.M., and a reception for the Rumford medalists was held in the Lounge.

#### May 13, 1953 — Annual Meeting

The One Thousand Three Hundred and Sixty-Eighth Meeting of the Academy convened in its House on May 13, 1953, and was called to order by the President at 8:20 P.M.

There were present fifty-one Fellows.

The records of the Meetings of March 6, 26, and 27 were read and approved.

Annual reports were received as printed below.

Ninety-seven new Fellows, five new Foreign Honorary Members, new officers and committee members were elected as listed below.

Upon recommendation by the Council it was voted that the assessment for the fiscal year beginning April 1, 1953, be \$15 for Resident Fellows and \$5 for Non-Resident Fellows.

Upon recommendation of the Council it was voted that the following appropriations be made for the fiscal year beginning April 1, 1953:

*A. Appropriations from the General Funds:*

1. Salaries, Pensions, and Annuities	\$18,127
2. General Administration	7,800
3. House Maintenance	10,250
4. President's Expense	300
5. Treasurer's Expense	1,000
6. Officers' and Special Committees' Expense	6,000
	\$43,477

*B. Anticipated Amounts Available for the Restricted Fund Accounts:*

1. Amory Fund Committee	\$25,240
2. Permanent Science Fund Committee	40,245
3. Publication Committee	11,869
4. Rumford Fund Committee	28,235
5. Warren Fund Committee	4,362

Two Fellows were introduced as follows: John K. Galbraith (F III:2) by C. J. Friedrich; and J. Frederic Dewhurst (F III:2) by J. K. Galbraith.

Under Mr. Saville R. Davis as moderator, there was in the Lounge beginning at 9 o'clock an informal discussion in search of a healthy relationship between the scholar, his institution, and his government. He was assisted by a panel consisting of Messrs. Martin Deutsch, Erwin Griswold, Norman Levinson and Norman Ramsey.

The meeting was dissolved at 11.30 P.M.

HENRY B. PHILLIPS, *Secretary*

## ANNUAL REPORTS

Report of the Secretary on the Status of the Membership  
1952-1953

I regret to have to report the following deaths: Twenty-eight Fellows and five Fellows Emeriti — Wilder Dwight Bancroft (I:3), Nathan Banks (II:3), Gregory Paul Baxter (I:3), Frank Weston Benson (IV:4), Francis Gilman Blake (II:4), Giuseppe Antonio Borgese (FE IV:3), Edgar Sheffield Brightman (IV:1), Douglas Houghton Campbell (II:2), Edwin Grant Conklin (II:3), Charles Townsend Copeland (FE IV:4), Harvey Nathaniel Davis (I:2), Gano Dunn (I:6), Gustavus John Esselen (I:3), Wallace Goodrich (IV:4), Herbert Ernest Gregory (II:1), Edgar Erskine Hume (II:4), Edward Vermilye Huntington (II:4), Thomas Augustus Jaggar (I:5), Roland Grubb Kent (IV:3), Arthur Becket Lamb (I:3), Andrew Cowper Lawson (II:1), Warfield Theobald Longcope (II:5), Charles Edward Merriam (III:3), Forest Ray Moulton (I:1), George Rapall Noyes (IV:3), Leigh Page (I:2), William Carter Quinby (FE II:4), Percy Edward Raymond (FE II:1), Hans Reichenbach (IV:1), Michael Ivanovich Rostovtzeff (IV:2), William Thomas Salter (II:4), William Lawrence White (II:2), William Hoyt Worrell (FE IV:3); Seven Foreign Honorary Members — Amado Alonso (IV:3), Gösta Adolfson Bagge (III:5), Benedetto Croce (IV:1), Wilfrid Arthur Greene (III:1), Louis Edouard Lapicque (II:4), Hugh Pattison Macmillan (III:1), Chaim Weizmann (I:3).

Six Fellows have been classed as Emeriti: John Wymond Miller Bunker (II:1), George Raleigh Coffman (IV:3), Hardy Cross (I:6), Gaetano Salvemini (IV:2), Thomas Henry Sanders (III:2), Willard Learoyd Sperry (IV:1).

Nine Fellows have resigned: Barry Bingham (III:4), John Nash Douglas Bush (IV:4), Mark DeWolfe Howe (IV:4), Archibald MacLeish (IV:4), Johnson O'Connor (IV:1), George Parkman (III:1), Jean Joseph Seznec (IV:3), Alfred Henry Sturtevant (II:3), Frits Warmolt Went (II:2).

In May, 1952, eighty-four Fellows and seven Foreign Honorary Members were elected to the Academy; all accepted election.

The roll now includes 953 Fellows, 58 Fellows Emeriti, and 143 Foreign Honorary Members (exclusive of those to be elected tonight).

Respectfully submitted,

HENRY B. PHILLIPS, *Secretary*

May 13, 1953

## Report of the Treasurer

## SCHEDULE A

BALANCE SHEET, MARCH 31, 1953

*Assets*

Cash in Banks and on Hand (Schedule E) ..... \$ 20,290.07

*Investments:*

General Fund (Estimated Market Value \$738,350.25) .....	\$656,795.81
Rumford Fund (Estimated Market Value \$97,652.75) .....	86,148.79

Total Investments (Schedule D)

(Estimated Market Value \$836,003.00) ..... 742,944.60

Real Estate, 28 Newbury Street, Boston, Mass.

(Book Value) .....	90,000.00
Prepaid Insurance Premiums .....	645.89

<i>Total</i> .....	<u>\$853,880.56</u>
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*Liabilities*

Plant Capital ..... \$ 90,000.00

*Funds\* (Schedule G):**General:*

Securities ..... \$617,241.66

*Rumford:*

Securities .....	\$86,148.79
Cash .....	670.50

Total Funds (Schedule G) .....	704,060.95
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*Unexpended Income (Schedule E):*

Securities ..... \$ 40,200.04

Cash ..... 19,619.57

Total Unexpended Income .....	59,819.61
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<i>Total</i> .....	<u>\$853,880.56</u>
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\* Not including principal of Permanent Science Fund, see page 234.

## SCHEDULE B

## RECEIPTS FOR THE FISCAL YEAR ENDING MARCH 31, 1953\*

*Academy, General:*

## Investment Income

(Schedule D) ..... \$37,755.87

Less: Income to Special Funds ..... 15,148.82

\$ 22,607.05

House Charges .....

4,210.00

Assessments and Admission Fees .....

8,230.00

\$ 35,047.05

*Mabel S. Agassiz Fund:*

Investment Income .....

120.00

*Amory Fund Committee:*

Investment Income .....

4,224.00

*Kennelly Fund:*

Investment Income .....

120.00

*Life Membership Fund* .....

1,200.00

*Permanent Science Fund:*

Boston Safe Deposit and Trust Co.,

Trustee .....

\$ 15,000.00

Return of Grants .....

665.60

Investment Income .....

720.00

16,385.60

*Publication Committee:*

Investment Income .....

\$ 3,306.00

Sale of Publications .....

1,836.23

Lake Publications .....

211.78

5,354.01

*Publication Exchange Fund:*

Linda Hall Library .....

1,830.34

*Rockefeller Foundation Fund:*

Institute for the Unity of Science .....

5,000.00

*Rumford Fund Committee:*

Investment Income .....

\$ 5,391.02

Ford Foundation .....

3,000.00

Sale of Publications .....

25.60

8,416.62

*Special Endowment Fund:*

Investment Income .....

13.80

*Warren Fund Committee:*

Investment Income .....

1,254.00

*Total Receipts* .....

\$ 78,965.42

\* Excluding sales of securities.

## SCHEDULE C

## EXPENDITURES FOR THE FISCAL YEAR ENDING MARCH 31, 1953\*

*Academy, General:*

Salaries and Pensions, etc.	\$ 14,914.65
Meetings and General Administration	7,383.58
House Maintenance	9,464.96
President's Expense	157.68
Treasurer's Expense	934.31
Special Appropriations:	
School Science Fund	108.68
Committee on International Relations	366.71
Totalitarianism	3,296.97
Atomic Scientists Bulletin	1,177.69
	<u>\$ 37,805.23</u>

*Mabel S. Agassiz Fund:*

For Meetings	120.00
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*Amory Fund:*

Expense	149.48
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*Institute for the Unity of Science*

	1,596.75
--	----------

*Permanent Science Fund:*

Grants	\$ 12,155.00
Expense	422.20

12,577.20*Publications Committee:*

Bulletin	\$ 832.48
Proceedings	4,533.26

5,365.74*Rumford Fund Committee:*

Awards	\$ 1,717.20
Medals	2,158.00
Bicentennial — Exhibit	1,000.00
" — General	2,641.11
" — Foreign Travel	1,953.57
Climatic Conference	2,877.25

12,347.13*Warren Fund Committee:*

Awards	700.00
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*Total Expenditures*\$ 70,661.53

\* Excluding purchases of securities.

*Schedule D, Investments, and Schedule E, Cash, are not reproduced here, but are available to Fellows upon request of the Treasurer.*

## SCHEDULE F

## SUMMARY OF OPERATING ACCOUNTS

Account	Balance March 31, 1952	Credits to Account	Expendi- tures or Transfers	Balance March 31, 1953
General .....	\$37,805.23		\$37,805.23	.....
Amory Fund .....	\$16,554.08	4,224.00	149.48	\$20,628.60
Lake Publications .....	1,409.04	211.78	.....	1,620.82
Publications .....	7,279.99	5,142.23	5,365.74	7,056.48
Rockefeller Foundation Fund .....	873.36	5,000.00	1,596.75	4,276.61
Rumford Fund .....	27,130.94	8,416.62	12,347.13	23,200.43
Warren Fund .....	2,482.67	1,254.00	700.00	3,036.67
Totals .....	\$55,730.08	\$62,053.84	\$57,964.33	\$59,819.61

## SCHEDULE G - FUNDS

	Balance March 31 1952	Invest- ment Income	Other Fund Receipts*	Fund Expendi- tures*	Transfer for Operating Expenses	Balance March 31, 1953
General Funds:						
Regular .....	\$49,848.38	.....	\$ 1,200.00	.....	.....	\$49,848.38
Life Membership .....	4,000.00	.....	.....	.....	.....	5,200.00
Current Expense .....	17,666.05	\$22,607.05	.....	.....	\$25,365.23	14,907.87
Barbour Fund .....	5,000.00	.....	.....	.....	.....	5,000.00
Library Sale Fund .....	288,876.91	.....	.....	.....	.....	288,876.91
Mabel S. Agassiz Fund .....	2,000.00	120.00	.....	.....	120.00	2,000.00
Amory Fund .....	53,759.70	4,224.00	.....	.....	4,224.00	53,759.70
Appleton Fund .....	17,278.39	.....	.....	.....	.....	17,278.39
Centennial Fund .....	25,608.77	3,306.00	.....	.....	3,306.00	25,608.77
Kennelly Fund .....	1,971.08	120.00	.....	.....	.....	2,091.08
Permanent Science Fund						
Income Account .....	20,692.63	720.00	15,665.60	\$12,577.20	.....	24,501.03
Publication Exchange						
Fund .....	11,025.00	.....	1,830.34	.....	.....	12,855.34
Rumford Fund .....	86,819.29	5,391.02	.....	.....	5,391.02	86,819.29
Special Endowment Fund .....	230.95	13.80	.....	.....	.....	244.75
Warren Fund .....	18,405.16	1,254.00	.....	.....	1,254.00	18,405.16
Investment Reserve Fund .....	74,379.36	.....	27,752.02	5,467.10	.....	96,664.28
Totals .....	\$677,561.67	\$37,755.87	\$46,447.96	\$18,044.30	\$39,660.25	\$704,060.95

(Schedule B)

(Schedule A)

\* Including gains and losses on sales of securities.

## DESCRIPTION OF FUNDS

## GENERAL FUNDS

Present Balances \$49,848.38 General Fund

5,200.00 Life Membership Fund

14,907.87 Current Expense Fund

Established by various subscriptions and contributions. The income of the first two funds is available for the general purposes and maintenance of the Academy — and both principal and income of the Current Expense Fund are available if needed.

## MABEL S. AGASSIZ FUND

Gift of \$2,000, 1940. Income for expenses of Academy meetings.

## FRANCIS AMORY FUND

Bequest, 1912. Present balance, \$53,759.70. For the purpose of establishing a Septennial Prize and a gold medal to encourage the invention and discovery of measures for the relief of maladies peculiar to the bladder and the various organs connected with it. The bequest directed that public notice should be given of the nature and design of the Fund and contributions should be solicited in aid of it — also, that no award of the income be made until twenty-one years after the date of Mr. Amory's death (i.e. 1933). Four awards were made in 1940 and six awards in 1947.

## APPLETON FUND

Present balance, \$17,278.39. Established in 1854. The Trustees under the will of Samuel Appleton turned over to the Academy certain manufacturing stocks, of the par value of \$10,000, for the purpose of constituting "a fund, the income of which is to be applied to the publication of the transactions of the said Society."

## THOMAS BARBOUR FUND

Bequest, 1947, \$5,000. Unrestricted as to principal and income.

## CENTENNIAL PUBLICATION FUND

Present balance, \$25,608.77. Established in 1880 by gift of \$1,000 from Dr. E. B. Cotting, a Fellow. Balance from subscriptions solicited by the Centennial Committee. Income is applied to publishing the transactions of the Academy.

## ARTHUR E. KENNELLY FUND

Bequest, 1939. Present balance, \$2,091.08. Unrestricted as to principal and income.

## LIBRARY SALE FUND

Sale Price, \$320,000. May, 1946. Proceeds for general purposes of the Academy. Present balance, \$288,876.91.

**PERMANENT SCIENCE FUND**

Balance, December 31, 1952, \$379,466.14. Fund established in September, 1928, by agreement and declaration of trust of the Boston Safe Deposit and Trust Company, acting as Trustee. Principal of Fund is held and invested by the Trustee and the annual income paid over to the Academy, semi-annually, on request.

**PERMANENT SCIENCE FUND (*Income Account*)**

Balance, March 31, 1953, \$24,501.03. Income of the Permanent Science Fund (above) accumulated and held apart. Available for grants for scientific research on recommendation of the Committee on the Permanent Science Fund of the Academy.

**PUBLICATION EXCHANGE FUND**

Balance, March 31, 1953, \$12,855.34.

**RUMFORD FUND**

Gift of Count Rumford, 1797, \$5,000 in three per cent stock of the United States. Present balance, \$86,819.29. Income to be applied every second year as a premium "to the author of the most important discovery or useful improvement which shall be made or published in writing during the preceding two years on heat and light."

In 1852, the Supreme Judicial Court of Massachusetts decreed that the balance of income might be used for the purchase of books, papers, philosophical apparatus, making publications or procuring lecturers, experiments and investigations, thereby carrying out the general intent and purpose of Count Rumford. Because the investment of the Fund could no longer be carried in stock of the United States, investment was permitted in "either notes or debts of the United States, or of the Commonwealth of Massachusetts or of the City of Boston, or in the stock of any bank in this Commonwealth or in notes or bonds secured by pledge of any of said stock or by mortgage of real estate in this Commonwealth or may be deposited in trust, and on interest, with the Massachusetts Hospital Life Insurance Company." This limitation is still in effect.

**SPECIAL ENDOWMENT FUND**

Gift, 1949, \$200. For future development of the Academy.  
Balance, March 31, 1953, \$244.75.

**C. M. WARREN FUND**

Bequest of Cyrus M. Warren, 1891. Present balance, \$18,405.16. The principal is to be held at interest and the income is to be applied toward the encouragement and advancement of research and of science in the field of Chemistry.

### Report of the Amory Prize Committee

The Amory Committee met on December 10, 1952, and continued its survey of investigators who should be on its list for final review as of November, 1954. Fourteen new names were considered. The Committee also discussed the fields of research which were appropriate for survey. It was recognized that the control and relief of benign hypertrophy of the prostate was the primary interest of the testator, and that progress in this field would deserve especial consideration, but it was noted that in the absence of adequate progress in the primary field, the prize was available over a reasonably wide area, even including the publication of a treatise in certain lines.

Respectfully submitted,

January 16, 1953

EDWIN B. WILSON, *Chairman*

### Report of the House Committee

The Academy met in the House eight times and there were twenty-eight meetings of various committees and conferences under the auspices of the Academy. The average attendance for these thirty-six meetings was sixty-four. A total of twenty-nine other scientific or cultural guest organizations held 154 meetings in the House with an average attendance of seventy-five. It is estimated that the total attendance at meetings and exhibits for the year was 16,000, or about the same as during the previous year. The table below lists the various guest organizations and the number of meetings held by each.

	<i>No. of Meetings</i>
Alliance Française .....	7
Alpha and Omega Fraternity, Tufts Dental School .....	4
Alpha Phi Sorority (Graduates of Salem Teachers College) .....	2
Boston Authors Club .....	6
Boston Psychoanalytic Society and Institute .....	3
Boston Shakespeare Club .....	1
Boston Society of Civil Engineers .....	6
Boston Teachers Union .....	9
Brookline Bird Club .....	3
Catholic Labor Guild .....	2
Children's Museum, Trustees .....	4
China Students' Club .....	8
Colonial Dames .....	2
Dynamion Society .....	14
English Speaking Union .....	1
Fulbright Scholarship Committee .....	1
High School Women's Club of Boston .....	1
Institute of Contemporary Art .....	5
Japanese Society .....	1
Joyce Kilmer Post, American Legion, and Auxiliary .....	25

New England Botanical Club .....	9
New England Section, Optical Society of America .....	1
New England School Science Council .....	12
New England Women's Press Association .....	6
Planned Parenthood League .....	1
Polish Literature Club .....	1
Rhodes Scholarship Committee (Mass. and New England) .....	2
Theosophical Society .....	1
United Cerebral Palsy of Boston .....	16
Total .....	154

Below are listed the titles of the exhibits in the lobby and the period during which they were displayed. It is estimated that about 1,887 entered the House solely to view the exhibits.

*Development of the Back Bay, October 11 to February 1*

*Early Boston Waterfront, February 1 to March 21*

*Rumford Bicentennial Exhibit, March 21 to May 13*

*Parker Medal Exhibit, April 27 to May 12*

The costs of maintaining and operating the House are given in the table below:

<i>Expenditures</i>	<i>1951-1952</i>	<i>1952-1953</i>
Custodian, Assistance, Pensions	\$ 3,753.93	\$ 4,063.23
Coal	1,202.60	1,617.60
Gas	3.10	0.
Electricity	1,377.21	1,284.61
Elevator	1,489.50	505.02
Water	25.50	21.00
Equipment	618.42	19.70
Supplies	428.30	747.53
Alterations and repairs	757.25	1,147.01
Fire Insurance	520.05	578.75
Miscellaneous	67.84	80.23
Total .....	\$10,243.70	\$10,064.68
Appropriations (including pension)	11,875.00	10,650.00
Unexpended	\$ 1,631.30	\$ 585.32

Receipts for use of the facilities of the House by other scientific, educational, and cultural organizations reduced the net cost to the Academy as follows:

	<i>1951-1952</i>	<i>1952-1953</i>
Total operating expenditures	\$10,243.70	\$10,064.68
Actual receipts for the year	4,257.85	4,210.00
Net cost of House Maintenance and Operations to the Academy .....	\$ 5,985.85	\$ 5,854.68

The Committee on International Scientific Publication of the National Research Council continued to occupy office space on the fourth floor during the year. On January 1 they moved from the smaller to the larger office space. The smaller office (570 square feet) is now available for other occupancy. The Boston Museum of Science and the Boston Authors Club continued to use a share of the space in the book-stack wing, and the Boston Medical Library began to occupy a section of this beginning January 1.

Respectfully submitted,

May 13, 1953

JOHN B. WILBUR, *Chairman*

#### Report of the Permanent Science Fund Committee

At our October meeting we had thirteen applications to consider, totaling requests for \$14,757, of which eight were acted upon favorably involving awards of \$7,550. Four of the applications were declined.

In March, twenty applications requesting a total of \$21,953 were presented for consideration. The 1952-1953 income of the Fund was \$16,385.60 but, with our reserve, \$23,828.08 was available as of March 10, 1953. Of the twenty applications, seven were declined; and thirteen were approved, for a total amount of \$9,565.

Grants were approved by the Council of the Academy on October 15, 1952, and on April 8, 1953, as follows:

##### *Grants Approved October 15, 1952*

1. To Nathan Belfer, Assistant Professor of Economics, Department of Economics, Pennsylvania State College, State College, Pa., for studies of the economic and social significance of the new steel plants being constructed at Morrisville, Pa., \$1,000.

2. To Leon S. Ciereszko, Associate Professor of Chemistry, University of Oklahoma, Box 96, Faculty Exchange, Norman, Okla., for a study of the comparative biochemistry of Echinoderms and Tunicates, \$950.

3. To Ralph I. Dorfman, Associate Director of Laboratories, Worcester Foundation for Experimental Biology, 222 Maple Avenue, Shrewsbury, Mass., for a study of the infrared analysis of steroids, \$1,500.

4. To Benjamin Karpman, Chief Psychotherapist, Saint Elizabeths Hospital, Washington, D. C., for work on an outline for the study of juvenile delinquency to include infant and child psychopathy and delinquency, \$750.

5. To O. H. Robertson, Lecturer, Dept. of Biological Sciences, Stanford University, Stanford, Calif., for a study of the cause of death of the Pacific salmons after spawning, \$1,200.

6. To Thomas W. Whitaker, Senior Geneticist, U. S. D. A., P. O. Box 150, La Jolla, Calif., for a study of the cultivated *Cucurbitaceae*, their origin, distribution, archeology, and genetics, \$1,000.

7. To the Massachusetts Historical Society, 1154 Boylston Street, Boston, Mass., to aid in the preparation for publication of the private and public papers of President John Adams, President John Quincy Adams, and Charles Francis Adams (1807-1886), \$1,000.

8. To D. V. Widder, Professor of Mathematics, Harvard University, Cambridge, Mass., for preparing for publication of a book entitled "The Convolution Transform," \$150.

*Grants Approved April 8, 1953*

1. To Philip F. Bonhag, Assistant Professor of Entomology, Iowa State College, Ames, Iowa, for nucleic acid studies of the ovarian trophocytes of *Oncopeltus fasciatus*, \$500.
2. To Elisabeth Deichmann, Curator of Marine Invertebrates, Museum of Comparative Zoology, Oxford Street, Cambridge 38, Massachusetts, for a report on the Holothurians of the Antarctic region on the basis of the "Discovery" expeditions material, \$250.
3. To Robert J. Drake, Curator, Laboratory of Conchology, Biblioteca y Museo de Sonora, Hermosillo, Sonora, Mexico, for a study of the continuation of conchological and ethnoconchological research in West Mexico, \$300.
4. To Robert L. Edwards, Instructor in Biology, and J. Lockwood Chamberlin, Teaching Fellow in Biology, Brandeis University, Waltham, Massachusetts, for selected studies of the ecology and Pleistocene geology of Richmond Gulf, Hudson Bay, Canada, \$600.
5. To Alexander Forbes, Professor of Physiology, Emeritus, Harvard University, Biological Laboratories, Divinity Avenue, Cambridge, Massachusetts, for a study of electric responses of vertebrate retina to color shift, \$1,000.
6. To Cecilia Payne-Gaposchkin, Astronomer, and Bart J. Bok, Professor of Astronomy, Harvard College Observatory, Cambridge 38, Massachusetts, toward purchasing an Eichner variable-aperture photometer, \$1,000.
7. To Frederick G. Hofmann, Research Fellow in Endocrinology, Harvard School of Dental Medicine, 188 Longwood Avenue, Boston, Massachusetts, for a study of the sulfur metabolism of the adrenal cortex in the rat, \$500.
8. To R. S. MacNeish, Anthropologist, National Museum of Canada, Ottawa, Ontario, Canada, for the development of maize agriculture and civilization in prehistoric Meso-America, \$2,000.
9. To Loren D. Potter, Associate Professor, North Dakota Agricultural College, Botany Department, College Station, Fargo, North Dakota, for a study of postglacial climatology and forest succession of Northwestern Ontario, \$1,200.
10. To George R. Rumney, Assistant Professor of Geography, University of Connecticut, Storrs, Connecticut, for a study of limits of settlement on the Canadian shield, \$1,000.
11. To Charles G. Sibley, Assistant Professor of Zoology, San Jose State College, San Jose 14, California, for a study of introgressive hybridization in the Red-eyed Towhee, \$640.
12. To Bradford Washburn, Director of the Museum of Science, Science Park, Boston 14, Massachusetts, to develop public interest and knowledge of the science of Astronomy, its materials, its tools and its methods, and to investigate effective procedures in this field of science education, \$500.
13. To Sidney E. White, Assistant Professor, The Ohio State University, Department of Geology, Columbus 14, Ohio, for a geologic investigation of the late Pleistocene history of the volcano Ixtaccíhuatl, Mexico, \$75.

Respectfully submitted,

May 13, 1953

HUDSON HOAGLAND, Chairman

**Report of the Committee on Publication**

The Committee held no formal meetings during the year.

No numbers of the *Memoirs* appeared during the year. Volume 80 of the *Proceedings*, devoted to papers of the Institute for the Unity of Science (see *Proceedings*, Volume 79, page 345 and Volume 81, page 316), is still incomplete. Number 2, pages 113-186, dated May, 1952, was distributed in August. Number 3, pages 187-270, dated March, will be mailed this month (see *Bulletin*, Volume VI, Number 8). Copy for the fourth number has not yet been received. Volume 81 of the *Proceedings*, 327 pages, was completed with the publication of the seventh number, *Records of Meetings*, in July, 1952. Volume 82 was begun with the Winter Number in March, 1953, and will be complete with the publication of the Rumford Bicentennial number this summer. This last number will be sent to all Fellows of the Academy, as well as Numbers 3, 4, and 5 containing the Communications presented to the Academy at regular meetings by C. J. Gorter, Arthur E. Sutherland, and Wilder Penfield, and Number 6, *Records of Meetings*. Number 2, about to be distributed, is devoted to three research papers by P. W. Bridgman.

The *Bulletin* was issued eight times under the direction of Mr. Burhoe. It contained abstracts of the Communications by George Wald and D. M. S. Watson, in addition to announcements and current news.

The proceedings of the Symposium on Climatic Change, held in May, 1952, are being published as a book by the Harvard University Press. It is expected before Christmas. Fellows may order a copy at a fifty per cent discount.

The Conference on Totalitarianism was held by the Academy in March, 1953. The papers presented at this conference will likewise be published in book form by the Harvard University Press in the fall. Fellows may order one copy of this book through the Academy office at a discount of fifty per cent.

The "Survey of Slavic Civilization" (see *Proceedings*, Volume 81, page 316) was inaugurated with the *Outline of Comparative Slavic Literatures* by Dmitry Cizevsky, published in January, 1953. Copy for the second volume has just been received. This number, *The Slavs: Their Early History and Civilization* by Francis Dvornik, should appear in the fall. Other titles of the projected series were listed in the February *Bulletin*.

The Committee on Publication received during the year from investment income \$3,306.00, from sales of publications \$2,048.01. Of the sales, \$338.78 is credited to special accounts. With the balance on hand, April 1, 1952, of \$8,689.03 the Committee had at its disposal a total of \$14,043.04. The expenditures to March 31, 1953, were for *Bulletin* and *Proceedings* \$5,365.74, leaving a balance on April first of the present year of \$8,677.30. With estimated investment income of \$3,192 the Committee has at its disposal \$11,869.30 for 1953-54. Sales will amount to about \$2,000 additional. This accounting appears more favorable than will be the case when all bills have been received. These will reduce the balance by more than \$3,000.

In last year's report the Chairman estimated that the Committee's publication reserves would be exhausted by March 31, 1954, if the rate of publication then in effect were continued. It appears now that we have another year of grace. Investment income and sales are not sufficient to cover the cost of a 300-page volume of *Proceedings* and the *Bulletin*. Other publications, and some of the *Proceedings*, have been and must continue to be financed in whole or in part by special subventions or gifts. It has been generally agreed in informal discussions that the publication program of the Academy cannot be further curtailed. When the reserve fund is finally exhausted, the inevitable annual deficit in the accounts of the Committee on Publication must be covered by general funds of the Academy.

Respectfully submitted,

May 13, 1953

TAYLOR STARCK, *Chairman*

#### Report of the Rumford Committee

The dominating activity of the Rumford Committee during the past year has been the celebration of the bicentennial of the birth of Benjamin Thompson, Count Rumford, which took place at Woburn, Massachusetts, March 26, 1753. The celebration took place on Thursday, Friday, and Saturday, March 26, 27, and 28, 1953. The Bicentennial Birthday Banquet, held at the Harvard Club of Boston on the evening of March 26 and attended by 97 Fellows and their 76 ladies, commemorated the Count not only through Professor Sanborn C. Brown's account of his life and work, but also through the menu which was selected from some of Rumford's own writing on the subject.

On the second evening of the celebration, three awards of the Rumford Premium were made: to Enrico Fermi of Chicago University for his studies of radiation theory and nuclear energy, to Willis Eugene Lamb, Jr., of Stanford University for his studies of the atomic hydrogen spectrum, and to Lars Onsager of Yale University for his contribution to the thermodynamics of transport processes. This is the first occasion when more than one Premium has been presented.

The third feature of the celebration was a series of three symposia held on March 27 and 28 on recent developments in (1) thermodynamics, (2) atomic spectroscopy, and (3) nuclear physics. The papers of the bicentennial are to be published in a special issue of the *Proceedings* of the Academy. An exhibition of the scientific works of Count Rumford together with portraits and other Rumfordiana was prepared by Professor Sanborn C. Brown of M. I. T. for display particularly during the bicentennial year. Guests of honor at the celebration included nine former medalists and four Rumford medalists of the Royal Society. Most of the arrangements for the bicentennial celebration were made by a subcommittee under the chairmanship of Harlow Shapley. Serving on the subcommittee also were P. W. Bridgman, Sanborn C. Brown, Joseph H. Keenan, and Edwin B. Wilson.

By mail vote of the Committee on June 10, a grant of \$800 was recommended for Professor Stanley S. Ballard, Physics Department, Tufts College,

Medford, Mass., in support of the design and construction of an apparatus for measuring the thermal expansion of small samples of optical crystals. This was approved by the Council at its October meeting.

By mail vote of the Committee on July 21, a grant of \$700 was recommended to Dr. Peter Elias, Harvard University, working at the Polaroid Corporation, Cambridge, Mass., for studies relating to the formation and interpretation of images formed by optical systems. This was approved by the Council in October.

The Committee at its meeting on October 14 recommended an appropriation of \$4,000 to the Harvard University Press to underwrite the publication of a book by the Press covering the papers presented at the Academy's Rumford-fund-supported symposium on climatic change; and an appropriation of \$6,400 for expenses of the bicentennial celebration. Both of these were approved by the Council at its October meeting.

By mail vote of the Committee on February 16, a grant of \$500 to Professor Forrest F. Cleveland, Department of Physics, Illinois Institute of Technology, Chicago 16, Ill., was recommended for his program on Raman and infrared spectral data, assignments, force constants, and thermodynamic properties of substituted methanes and ethanes. The Council approved this at its meeting in April.

By mail vote of the Committee on April 6, a grant of \$500 was recommended to Dr. Theodore Dunham, Jr., Institute of Optics, University of Rochester, Rochester 3, N. Y., to cover part of his travel to Canberra, Australia, to organize further a cooperative program between Australian and American astronomers for photographing with high dispersion the spectra of the stars of the Southern Hemisphere. This was approved by the Council at its May meeting.

Respectfully submitted,

GEORGE R. HARRISON, *Chairman*

May 13, 1953

#### Report of the Cyrus M. Warren Committee

The Committee had available for grants the sum of \$3,000, which amount had been voted by the Council at the meeting on March 12, 1952; representing \$1,500 voted for the preceding year but not used and \$1,500 voted from present funds.

At a meeting of the Committee held on May 12, 1952, the following grants were voted:

To Professor L. S. Ciereszko of the University of Oklahoma, a grant of \$200 for the purchase of special supplies for research on the application of urea adduct (or complex) formation to the separation of fatty alcohols and their glyceryl ethers.

To Dr. Lillian N. Ellis and Mr. Sheldon Atlas of Adelphi College, Garden City, N. Y., a grant of \$500 to be used for component parts of an optical system for light-scattering measurements.

At the meeting of the Council on May 13, 1953, the following projects recommended by the Committee were approved:

To W. Lewis Nobles, Assistant Professor of Pharmaceutical Chemistry, University of Mississippi, University, Mississippi, for studies of the application of the Mannich reaction to  $\alpha$ ,  $\beta$ -unsaturated ketones. (\$225.00)

To Walter R. Hearn, Instructor in Biochemistry, Baylor University College of Medicine, Houston, Texas, for preparation and study of tyrosine-containing peptides and peptide derivatives. (\$300.00)

A letter was received from Professor A. J. Castro, San Jose State College, San Jose, California, submitting a report of the expenditure of the grant of \$55.00 in 1951. The apparatus purchased by Professor Castro, a Powerstat and Stirrer, has been returned to the Chairman for use by others.

A report from Dr. Lillian N. Ellis indicates that progress has been made in assembling the equipment required, and the plan is to spend the coming summer and perhaps the following summer in completing the research proposed.

A report has been received from Professor L. S. Ciereszko and he states that the project he started with these funds is to be continued under a grant from the National Institute of Health.

A reprint has been received from E. R. Atkinson covering work carried out under a grant from the Cyrus M. Warren Fund: "A Polarographic Examination of Diazotized Amines. II Additional Coulometric Data" by E. R. Atkinson, Charles E. Garland and Arthur F. Butler. *J. Am. Chem. Soc.* 75, 983 (1950).

Respectfully submitted,

May 13, 1953

E. R. GILLILAND, *Chairman*

## OFFICERS AND COMMITTEES ELECTED MAY 13, 1953

*For a complete list of officers and committees see the first pages of this issue.*

<b>President</b>	.	.	.	.	.	Edwin H. Land
<b>Vice-President of Class I</b>	.	.	.	.	.	Francis Birch
<b>Vice-President of Class II</b>	.	.	.	.	.	James M. Faulkner
<b>Vice-President of Class III</b>	.	.	.	.	.	Erwin D. Canham
<b>Vice-President of Class IV</b>	.	.	.	.	.	John E. Burchard
<b>Secretary</b>	.	.	.	.	.	William C. Greene
<b>Treasurer</b>	.	.	.	.	.	Horace S. Ford
<b>Librarian</b>	.	.	.	.	.	Taylor Starck
<b>Editor</b>	.	.	.	.	.	Taylor Starck

### Councillors

*To serve for four years:*

- Garrett Birkhoff, of Class I, Section 1
- Philipp Frank, of Class I, Section 2
- Carroll M. Williams, of Class II, Section 4
- Ralph E. Freeman, of Class III, Section 2
- Howard M. Jones, of Class IV, Section 3

**House Committee**

Philippe E. LeCorbeiller ..... *of the Committee, to serve as Chairman*  
 Thomas K. Sherwood ..... *to serve for three years*

**Committee on Membership**

*To serve for two years:*

Bart J. Bok, *of Class I* Henry A. Murray, Jr., *of Class III*  
 Francis O. Schmitt, *of Class II* William G. Constable, *of Class IV*

**Committee on Meetings**

*To serve for two years:*

Samuel A. Stouffer, *of Class III* Esther Forbes, *of Class IV*

**Finance Committee**

*To serve for two years:*

Harvey H. Bundy ..... Erwin H. Schell

**Auditing Committee**

David F. Edwards ..... *to serve for two years*

**Committee on Publication**

*To serve for two years:*

Thomas J. Wilson, *of Class III* Waldo G. Leland, *of Class IV*

**Permanent Science Fund Committee**

J. Lawrence Oncley ..... *of the Committee, to serve as Chairman*  
 Earl R. Loew ..... *to serve for three years*  
 Eric G. Ball ..... *to serve for three years*

**Rumford Committee**

Joseph H. Keenan ..... *of the Committee, to serve as Chairman*  
 Donald F. Hornig ..... *to serve for three years*  
 Cutler D. West ..... *to serve for three years*

**Warren Committee**

*To serve for three years:*

Arthur C. Cope ..... Richard C. Lord

**Amory Prize Committee**

*To serve for one year:*

Edwin B. Wilson, *Chairman*

William B. Castle ..... George W. Thorn  
 Roy G. Hoskins ..... George B. Wislocki  
 Gregory Pincus ..... S. Burt Wolbach

**Nominating Committee**

*To serve for three years:*

William P. Allis, *of Class I* Saville R. Davis, *of Class III*  
 L. R. Cleveland, *of Class II* George H. Edgell, *of Class IV*

## NEW MEMBERS ELECTED MAY 13, 1953

## FELLOWS (97)

## CLASS I — MATHEMATICAL AND PHYSICAL SCIENCES (25)

*Section 1 — Mathematics (1)*

George Whitelaw Mackey      Harvard University, Cambridge, Mass.

*Section 2 — Physics (6)*

Robert Fox Bacher	California Institute of Technology, Pasadena, Calif.
Sanborn Conner Brown	Mass. Institute of Technology, Cambridge, Mass.
Martin Deutsch	Mass. Institute of Technology, Cambridge, Mass.
Brian O'Brien	University of Rochester, Rochester, N. Y.
William Shockley	Bell Telephone Laboratories, Murray Hill, N. J.
Julian Hale Webb	Eastman Kodak Company, Rochester, N. Y.

*Section 3 — Chemistry (5)*

Howard Oldford McMahon	Arthur D. Little, Inc., Cambridge, Mass.
Eugene Rabinowitch	University of Illinois, Urbana, Ill.
Erwin Schwenk	Worcester Foundation for Experimental Biology, Shrewsbury, Mass.
Charles Gardner Swain	Mass. Institute of Technology, Cambridge, Mass.
Arthur Andrew Vernon	Northeastern University, Boston, Mass.

*Section 4 — Astronomy (3)*

William Wilson Morgan	Yerkes Observatory, Williams Bay, Wisc.
Jason John Nassau	Warner and Swasey Observatory, E. Cleveland, Ohio
Lyman Spitzer	Princeton University, Princeton, N. J.

*Section 5 — Earth Sciences (3)*

Chester Ray Longwell	Yale University, New Haven, Conn.
William Walden Rubey	National Research Council, Washington, D. C.
Harry Blackmore Whittington	Harvard University, Cambridge, Mass.

*Section 6 — Engineering Sciences and Technologies (7)*

George Francis Carrier	Harvard University, Cambridge, Mass.
Albert Gordon Hill	Mass. Institute of Technology, Cambridge, Mass.
William MacGregor Murray	Mass. Institute of Technology, Cambridge, Mass.

## CLASS I — Section 6 — Continued

Milton Clayton Shaw Mass. Institute of Technology, Cambridge, Mass.  
 Percy LeBaron Spencer Raytheon Manufacturing Company, Waltham, Mass.  
 Horton Guyford Stever Mass. Institute of Technology, Cambridge, Mass.  
 Jerome Bert Wiesner Mass. Institute of Technology, Cambridge, Mass.

## CLASS II — BIOLOGICAL SCIENCES (26)

## Section 1 — Biophysics and Biochemistry (8)

John Machlin Buchanan Mass. Institute of Technology, Cambridge, Mass.  
 Gerty Theresa Cori Washington University, St. Louis, Mo.  
 Ralph Isadore Dorfman Worcester Foundation for Experimental Biology, Shrewsbury, Mass.  
 Conrad Arnold Elvehjem Wisconsin University, Madison, Wisc.  
 Robert Emerson University of Illinois, Urbana, Illinois  
 Joseph Stewart Fruton Yale University, New Haven, Conn.  
 Walter Lee Hughes, Jr. Harvard University, Cambridge, Mass.  
 Barbara Wharton Low (Mrs. Metchie Budka) Harvard University, Cambridge, Mass.

## Section 2 — Botany and Bacteriology (4)

Henry Ives Baldwin Fox Research Forest, Hillsboro, N. H.  
 Richard Alden Howard University of Connecticut, Storrs, Conn.  
 Ernest Robert Sears University of Missouri, Columbia, Mo.  
 Frans Verdoorn *Chronica Botanica*, Waltham, Mass.

## Section 3 — Zoology (5)

Philip Jackson Darlington Harvard University, Cambridge, Mass.  
 Theodosius Dobzhansky Columbia University, New York, N. Y.  
 Tillie Edinger Harvard University, Cambridge, Mass.  
 Walter Landauer University of Connecticut, Storrs, Conn.  
 Franz Schrader Columbia University, New York, N. Y.

## Section 4 — Physiology and Experimental Psychology (4)

Frank Ambrose Beach Yale University, New Haven, Conn.  
 Joseph Carl Robnett Licklider Mass. Institute of Technology, Cambridge, Mass.  
 Ross Armstrong McFarland Harvard School of Public Health, Boston, Mass.  
 Edwin Broomell Newman Harvard University, Cambridge, Mass.

## Section 5 — Medicine (5)

Derek Ernest Denny-Brown Harvard University, Cambridge, Mass.  
 Jack Ewalt Mass. Department of Mental Health, Boston, Mass.  
 Jacob Fine Harvard University, Cambridge, Mass.  
 Joseph Garland New England Journal of Medicine, Boston, Mass.  
 Joseph Foster Ross Boston University, Boston, Mass.

## CLASS III — SOCIAL ARTS AND SCIENCES (20)

*Section 1 — Social Relations (7)*

John William Gardner	Carnegie Institution, New York, N. Y.
Francis Keppel	Harvard University, Cambridge, Mass.
Douglas Llewellyn Oliver	Harvard University, Cambridge, Mass.
Frederick Osborn	New York, N. Y.
Leslie Spier	University of New Mexico, Albuquerque, New Mexico
Fletcher Guard Watson	Harvard University, Cambridge, Mass.
Frederick Roelker Wulsin	Tufts College, Medford, Mass.

*Section 3 — Political Science (2)*

Karl Wolfgang Deutsch	Mass. Institute of Technology, Cambridge, Mass.
Boris Mirkine-Guetzvitch	École Libre des Hautes Études, New York, N. Y.

*Section 4 — Law (1)*

Peter Woodbury	U. S. Court of Appeals, Manchester, N. H.
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*Section 5 — Administration and Affairs (10)*

John Adams	Massachusetts Historical Society, Boston, Mass.
Thomas Boylston Adams	Sheraton Corporation of America, Boston, Mass.
Samuel Tomlinson Arnold	Brown University, Providence, R. I.
Sevellon Ledyard Brown	Providence Journal, Providence, R. I.
John Phillips Coolidge	Fogg Art Museum, Cambridge, Mass.
Ernest Stanley Dodge	Peabody Museum, Salem, Mass.
Edward Sanborn French	Boston & Maine Railroad, Springfield, Vt.
William Gurdon Saltonstall	Phillips Exeter Academy, Exeter, N. H.
Adlai Ewing Stevenson	Springfield, Illinois
Vernon Dale Tate	Mass. Institute of Technology, Cambridge, Mass.

## CLASS IV — HUMANITIES (26)

*Section 1 — Philosophy and Theology (3)*

Theodore Meyer Greene	Yale University, New Haven, Conn.
George Hunston Williams	Harvard Theological School, Cambridge, Mass.
John Joseph Wright, Bishop of Worcester	Worcester, Mass.

*Section 2 — History and Archaeology (9)*

## Lyman Henry Butterfield

Institute of Early American History and Culture, Williamsburg, Va.	
George Maxim Anossov Hanfmann	Harvard University, Cambridge, Mass.
Henry Russell Hitchcock	Smith College, Northampton, Mass.
Alfred Vincent Kidder	Carnegie Institution, New York, N. Y.
William Leonard Langer	Harvard University, Cambridge, Mass.
Robert Earle Moody	Boston University, Boston, Mass.

CLASS IV — *Section 2 — Continued*

Elliott Perkins	Harvard University, Cambridge, Mass.
Philip Phillips	Harvard University, Cambridge, Mass.
Warren Stenson Tryon	Boston University, Boston, Mass.

*Section 3 — Philology and Criticism (4)*

Eric Alfred Havelock	Harvard University, Cambridge, Mass.
Simon Rawidowicz	Brandeis University, Waltham, Mass.
Heinrich Schneider	Harvard University, Cambridge, Mass.
Bartlett Jere Whiting	Harvard University, Cambridge, Mass.

*Section 4 — Fine Arts and Belles Lettres (10)*

Lawrence Bernhardt Anderson	Mass. Institute of Technology, Cambridge, Mass.
John Ciardi	Harvard University, Cambridge, Mass.
Roland Hayes	Brookline, Mass.
Oliver LaFarge	Santa Fe, New Mexico
Paul Henry Lang	Columbia University, New York, N. Y.
David Thompson Watson McCord	Boston, Mass.
Agnes Mongan	Harvard University, Cambridge, Mass.
Robert Treat Paine, Jr.	Museum of Fine Arts, Boston, Mass.
John Crowe Ransom	Kenyon College, Gambier, Ohio
Rudolph Ruzicka	Concord, Mass.

## FOREIGN HONORARY MEMBERS (5)

## CLASS II — BIOLOGICAL SCIENCES (3)

Section 1 — Biophysics and Biochemistry (1)	
Arne Tiselius	University of Uppsala, Uppsala, Sweden

*Section 2 — Botany and Bacteriology (1)*

Albert Jan Kluyver	Technical University, Delft, Holland
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*Section 3 — Zoology (1)*

David Meredith Seares Watson	University College, London, England
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## CLASS III — SOCIAL ARTS AND SCIENCES (2)

*Section 3 — Political Science (2)*

Sir Benegal Rama Rau	New Delhi, India
Robert Schuman	Paris, France

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